



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

May 8, 1984

ALL LICENSEES OF OPERATING REACTORS

Gentlemen:

SUBJECT: RECOMBINER CAPABILITY REQUIREMENTS OF 10 CFR 50.44 (c)(3)(ii)
(GENERIC LETTER NO. 84-09)

On December 2, 1981, the NRC amended §50.44 of its regulations by addition of the provisions in §50.44(c)(3). One of these provisions requires licensees of those light water reactors (both BWRs and PWRs) that rely upon purge/repressurization systems as the primary means of hydrogen control to provide a recombiner capability by the end of the first scheduled outage after July 5, 1982, of sufficient duration to permit the required modifications. Those plants for which notices of hearing on applications for construction permits were published on or after November 5, 1970 are not permitted by 10 CFR 50.44(e) to rely on purge/repressurization systems as the primary means for hydrogen control. Therefore, these plants are not affected by the requirement for recombiner capability; the licensees of these plants are being furnished a copy of this generic letter for information only.

After adoption of the amended rule, and as a result of the new inerting requirement in §50.44(c)(3), the BWR Mark I Owners Group (incorporating studies performed by Northeast Nuclear Energy Company) undertook a substantial program to demonstrate that the Mark I plants potentially affected by the recombiner capability requirements of the rule do not need to rely on use of the safety grade purge/repressurization system required by the original 10 CFR 50.44 rule as the primary means of hydrogen control. Extensive review and independent studies by the NRC staff supported the findings of the Mark I Owners Group program. (This letter does not address PWRs because the inerting requirement of §50.44(c)(3) does not apply to PWRs and, therefore, the licensees of PWRs are not likely to be able to make a comparable demonstration.)

The Commission has determined that a Mark I BWR plant will be found to not rely upon purge/repressurization systems as the primary means of hydrogen control, if certain technical criteria are satisfied. To avoid any misunderstanding, we wish to make clear that a plant that has a "safety grade" purge/repressurization system designed to conform with the general requirements of Criteria 41, 42 and 43 of Appendix A of 10 CFR Part 50 and installed in accordance with §50.44(f) or §50.44(g) must continue to have that system, even though it may be determined with respect to §50.44(c)(3) that the plant does not rely on that system as the primary means for hydrogen control; thus, a decision on recombiner capability does not affect the requirements of §50.44(f) and §50.44(g) for the "safety grade" purge/repressurization system.

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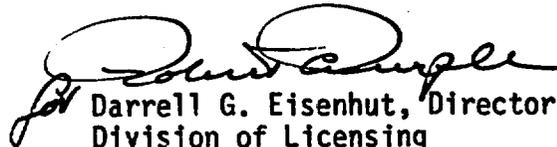
For those inerted Mark I BWR containments (for which notices on the construction permits were published before November 5, 1970) that do not rely upon safety grade purge/repressurization systems as the primary means of hydrogen control, the Commission determination, cited above, is applicable provided the following criteria are met:

- 1) The plant has technical specifications (limiting conditions for operation) requiring that, when the containment is required to be inerted, the containment atmosphere be less than four percent oxygen, and
- 2) The plant has only nitrogen or recycled containment atmosphere for use in all pneumatic control systems within containment, and
- 3) There are no potential sources of oxygen in containment other than that resulting from radiolysis of the reactor coolant. Consideration of potential sources of inleakage of air and oxygen into containment should include consideration of not only normal plant operating conditions but also postulated loss-of-coolant-accident conditions. These potential sources of inleakage should include instrument air systems, service air systems, MSIV leakage control systems, purge lines, penetrations pressurized with air and inflatable door seals.

Accordingly, any Mark I BWR owner which has concluded that a recombiner capability is not required for its facility is requested to submit a response to this letter within 45 days. Each submittal should indicate the applicability of the generic studies submitted by the Mark I Owners Group to the licensee's facility and include additional information relative to the three criteria cited above to enable the staff to make a comparable decision.

This request for information was approved by the Office of Management and Budget under clearance number 3150-0011 which expires April 30, 1985. Comments on burden and duplication may be directed to the Office of Management and Budget, Reports Management Room 3208, New Executive Office Building, Washington, D. C. 20503.

Sincerely,



Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation